

ARGUMENTS/REMARKS

Applicants would like to thank the examiner for the careful consideration given the present application, and for the personal interview conducted on May 11, 2004. The application has been carefully reviewed in light of the Office action and the interview, and amended as necessary to more clearly and particularly describe and claim the subject matter which applicants regard as the invention.

Claims 1-20 remain in this application.

Applicant and Examiner discussed the references used in the rejections in detail at the personal interview. In particular, amendments to the claims that directed the invention toward a vehicle power system that uses a vehicle DC power bus providing DC power and also carrying a communications signal were discussed. As a result of the interview, applicants have amended the claims as discussed hereinbelow, and the Examiner agreed during the interview (and in the Interview summary) that such amendments should overcome the art of record, the reasons for which being incorporated in the arguments hereinbelow.

Claims 1-4 were rejected under 35 U.S.C. §102(b) as being anticipated by Schneider *et al.* (U.S. 5,365,154). For the following reasons, the rejection is respectfully traversed.

Claim 1, as amended, is directed toward an electrical power conversion system for a vehicle having a decoupler for “decoupling a communication signal from a *vehicle DC electrical power bus*” (emphasis added). Schneider does not suggest this limitation of claim 1. Instead, Schneider is directed toward an appliance control system that uses an AC power bus (see FIG. 1A discussing a “line” and “neutral” connection, language that is clearly directed to a typical residential AC system, because DC systems do not use “line” and “neutral” designations). There is no suggestion that a DC power bus be utilized by the reference.

Further, as was discussed at the personal interview, none of the references teach superimposing a communication signal on a vehicle DC power bus, with the communication signal used for controlling a vehicle load and/or a converter that powers the load at a different voltage than the vehicle DC bus. The Examiner agreed that this combination of features is not taught by the art of record. Accordingly, claim 1 is patentable over the references.

Claims 2-4, which depend on claim 1, are therefore also patentable over the references for at least the same reasons as claim 1.

Claims 19-20 were rejected under 35 U.S.C. §102(b) as being anticipated by Vig (U.S. 4,791,311). For the following reasons, the rejection is respectfully traversed.

As amended, claim 19 recites an electrical power conversion system for a vehicle having a “power converter connected to a vehicle electrical power bus that provides DC current” wherein the power converter outputs a “load voltage different from the bus voltage”, with the load voltage for “powering a vehicle load”. Vig does not teach these limitations of claim 19.

As discussed at the personal interview, Vig does not teach any connection to a vehicle DC electrical power bus. Further, Vig does not teach powering a vehicle load. Thus, Vig does not anticipate claim 19, and thus claim 19 is patentable over Vig. Claim 20, which depends on claim 19, is thus patentable for at least the same reasons as claim 19.

Claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schneider in view of Rotem (U.S. 6,570,493). For the following reasons, the rejection is respectfully traversed.

Claims 5 and 6 depend indirectly upon claim 1. Rotem does not overcome the shortcomings of Schneider with respect to claim 1, as discussed above. Accordingly, claims 5 and 6 are patentable over the combination of references for at least the same reasons as claim 1.

Claims 7-14, 16, and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Normann (U.S. 5,821,632) in view of Tamai *et al.* (U.S. 6,459,170). For the following reasons, the rejection is respectfully traversed.

As discussed at the personal interview, Norman does not teach coupling/decoupling a communication signal to a vehicle DC power bus, because the bus discussed in Norman is not a DC power bus, but a coaxial communications bus. Normann teaches that a *rectifier* is necessary to obtain a DC signal from the coaxial data cable carrier signal (see col. 2, lines 20-24; col. 6, lines 33-36), and thus does not teach a DC power bus. One skilled in the art would know that a coaxial cable is not a proper means of generally providing a DC power bus in a

vehicle. Instead, one skilled in the art would know that coaxial cables are proper for relatively high-frequency data communications use, not generally for powering electrical equipment. Accordingly, Normann must utilize a rectifier to rectify a communication signal into DC power for a load. Applicant's representative is aware of no vehicle DC power bus that uses a coaxial cable, and doubts that any such use is feasible. Accordingly, applicant's representative believes that the known art clearly teaches away from any such a use.

Claims 7-12 depend, directly or indirectly, on claim 1. As discussed above, claim 1 is directed toward a converter connected to a vehicle DC power bus for providing power to a vehicle load at a different voltage than the DC power bus, and also having means for controlling the load and/or converter based on a communication signal also taken from the power bus. Applicant notes that, as discussed at the personal interview, Tamai teaches receiving communication signals from a *LAN*, not a power bus, thus requiring two busses, whereas Normann does not teach a converter. Further, as discussed above, neither reference teaches the decoupler for obtaining a communication signal on a vehicle DC power bus. The Examiner further cites Fisher *et al.* (U.S. 6,496,105), as teaching a decoupler; However, Fisher does *not* teach a decoupler that decouples a communication signal from a *vehicle DC power bus*. In fact, there is no suggestion that the Fisher power bus is DC. Hence, Fisher does not overcome the shortcomings identified above for Tamai.

Accordingly, because the combination of references does not teach all of the elements of claim 1, the combination also fails to teach all of the elements of claims 7-12, and those claims are thus patentable over the references for at least that reason.

Claim 13 recites similar limitations as those discussed above, and further recites a "coupler" for "coupling the *FSK* communication signal onto the *vehicle* electrical power bus" which is defined as a *DC* bus. Again, because none of Tamai, Fisher, nor Normann teach a coupler for coupling communication signal to the vehicle power bus, and for the reasons discussed for claim 1, above, the combination does not teach all of the limitations of claim 13, and thus claim 13 is patentable over the references.

Claims 14, 16, and 17, which depend, directly or indirectly, upon claim 13, are thus patentable over the references for at least the same reasons as discussed for claim 13.

Finally, the Examiner has not provided the proper motivation for combining the references for making the obviousness rejections. The burden is on the Examiner to make a

prima facie case of obviousness (MPEP §2142). To support a prima facie case of obviousness, the Examiner must show that there is some *suggestion* or *motivation* to modify the references (MPEP §2143.01). The mere fact that references *can* be combined or modified, alone, is not sufficient to establish prima facie obviousness (*Id.*). The prior art must also suggest the *desirability* of the combination (*Id.*). The fact that the claimed invention is within the capabilities of one of ordinary skill in the art is also not sufficient, by itself, to establish prima facie obviousness (*Id.*).

Accordingly, the rejection for obviousness is improper for lack of motivation, and thus claims 5-14, 16, and 17 are patentable over the references for this reason as well.

In consideration of the foregoing analysis, and based on the discussion of the references conducted at the personal interview, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 32518 (LD11387).

Respectfully submitted,

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